

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

01/9.1-9
OK
for
327/48
TDC
6/22/03

We Claim:

1. A circuit configuration for driving a semiconductor switching element, comprising:

an output terminal to be connected to the semiconductor switching element;

a capacitive charge storage configuration coupled to said output terminal;

a charging and discharging circuit having:

at least one input receiving at least one drive signal;
and

an output connected to said capacitive charge storage configuration;

said charging and discharging circuit providing, at said output, one of the group consisting of a charging current and a first discharging current for said capacitive charge storage configuration depending on the at least one drive signal;

a discharging circuit having a connecting terminal connected to said capacitive charge storage configuration; and

said connecting terminal providing a second discharging current for said charge storage configuration.

2. The circuit configuration according to claim 1, wherein said second discharging current is lower than said first discharging current.

3. The circuit configuration according to claim 2, wherein said second discharging current is substantially constant.

4. The circuit configuration according to claim 1, wherein:
said discharging circuit has:

a bipolar transistor with a base and an emitter; and

a current source;

said base is connected to said capacitive charge storage configuration; and

said current source is connected to said emitter.

5. The circuit configuration according to claim 1, including:

a first supply potential; and

a second supply potential;

said charging and discharging circuit having:

a first controllable switch with a first control input;

a second controllable switch with a second control input;

and

a drive circuit connected to said first control input and
said second control input;

said first controllable switch and said second controllable
switch connected in series between said first supply potential
and said second supply potential; and

each of said first controllable switch and said second
controllable switch connected to said output.

6. The circuit configuration according to claim 5, wherein
said drive circuit has:

a first output terminal connected to said first control input;
and

a second output terminal connected to said second control input.

7. The circuit configuration according to claim 5, wherein:

said first controllable switch has an on state and an off state;

said second controllable switch has an on state and an off state; and

said drive circuit drives one switch of the group consisting of said first controllable switch and said second controllable switch into said on state and the other switch of the group consisting of said first controllable switch and said second controllable switch into said off state dependent upon the at least one drive signal.

8. The circuit configuration according to claim 7, wherein:

the at least one drive signal includes a first drive signal and a second drive signal;

said at least one input includes a first input and a second input;

said drive circuit has a second input terminal connected to said second input for feeding in the second drive signal; and

said drive circuit drives said first controllable switch and said second controllable switch jointly into said off state depending on said second drive signal.

9. The circuit configuration according to claim 1, including an operational amplifier connected between said capacitive charge storage configuration and said output terminal.

10. A method for driving a semiconductor switching element having a control input and a load path, which comprises:

307/10.6 connecting the load path of the semiconductor switching element in series with a primary coil of a transformer;

connecting an ignition spark generating configuration in series with a secondary coil of the transformer;

applying a drive voltage to the control input of the semiconductor switching element to an extent sufficient to drive the semiconductor switching element into an on state;

generating an ignition spark in the ignition configuration by reducing the drive voltage of the semiconductor switching

element within a sufficient period of time to induce a voltage across the load path sufficient to generate an ignition spark in the ignition configuration; and

preventing an ignition spark in the ignition configuration by reducing the drive voltage of the semiconductor switching element within a sufficient period of time to induce a voltage across the load path insufficient to generate an ignition spark in the ignition configuration.